CLAIMS

What is claimed is:

1. An isolated nucleic acid, wherein said isolated nucleic acid hybridizes to a nucleic acid selected from the group consisting of:
   a) a nucleic acid having the sequence set forth in SEQ ID NO: 1 or a portion thereof comprising the coding sequence;
   b) a nucleic acid having the sequence set forth in SEQ ID NO: 3 or a portion thereof comprising the coding sequence ;
   c) a nucleic acid having the sequence set forth in SEQ ID NO: 5 or a portion thereof comprising the coding sequence;
   d) the complement of any one of (a) through (c); and
   e) the RNA counterpart of any one of (a) through (d), wherein U is substituted for T.

2. The isolated nucleic acid of Claim 1, wherein the isolated nucleic acid is essentially pure.

3. The isolated nucleic acid of Claim 1, wherein the isolated nucleic acid hybridizes to any one of the nucleic acids set forth in a) through e) under stringent conditions.

4. The isolated nucleic acid of Claim 1, wherein the isolated nucleic acid encodes at least a functional portion of a mammalian chemokine receptor 3.

5. The isolated nucleic acid of Claim 4, wherein the mammal is a human.

6. The isolated nucleic acid of Claim 4, wherein the isolated nucleic acid is recombinant.

7. An isolated, recombinant nucleic acid which encodes a mammalian chemokine receptor-3.

8. An isolated, recombinant nucleic acid of Claim 7, wherein the mammal is a primate.

9. An isolated, recombinant nucleic acid of Claim 8, wherein the primate is a human.

10. An isolated nucleic acid, wherein said nucleic acid encodes a polypeptide selected from the group consisting of:
  a) a polypeptide having the amino acid sequence set forth in SEQ ID NO:2;
  b) a polypeptide having the amino acid sequence set forth in SEQ ID NO:4;
  c) a polypeptide having the amino acid sequence set forth in SEQ ID NO:6; and
  d) a functional portion of any one of (a) through (c), said portion having at least one function characteristic of a mammalian C-C chemokine receptor.

11. The isolated nucleic acid of Claim 10, wherein said nucleic acid is essentially pure.

12. The isolated nucleic acid of Claim 10, which is a recombinant nucleic acid.

13. The nucleic acid of Claim 10, wherein the polypeptide binds one or more of RANTES, MCP-3, and eotaxin.

14. The nucleic acid of Claim 10, wherein the polypeptide binds RANTES.

15. A recombinant construct comprising a recombinant nucleic acid which hybridizes to a nucleic acid selected from the group consisting of:

a) a nucleic acid having the sequence set forth in SEQ ID NO: 1 or a portion thereof comprising the coding sequence;

b) a nucleic acid having the sequence set forth in SEQ ID NO: 3 or a portion thereof comprising the coding sequence ;

c) a nucleic acid having the sequence set forth in SEQ ID NO: 5 or a portion thereof comprising the coding sequence;

d) the complement of any one of (a) through (c); and

e) the RNA counterpart of any one of (a) through (d), wherein U is substituted for T.

16. The recombinant construct of Claim 15, wherein the recombinant nucleic acid is operably linked to an expression control sequence.

17. The recombinant construct of Claim 15, wherein the recombinant nucleic acid encodes at least a functional portion of a mammalian chemokine receptor-3.

18. The recombinant construct of Claim 17, wherein the mammal is a human.

19. A recombinant construct comprising a nucleic acid which encodes a mammalian chemokine receptor 3.

20. The recombinant construct of Claim 19, wherein the mammal is a primate.

21. The recombinant construct of Claim 20, wherein the primate is a human.

22. A recombinant construct comprising a nucleic acid, wherein said nucleic acid encodes a polypeptide selected from the group consisting of:

a) a polypeptide having the amino acid sequence set forth in SEQ ID NO:2;

b) a polypeptide having the amino acid sequence set forth in SEQ ID NO:4;

c) a polypeptide having the amino acid sequence set forth in SEQ ID NO:6;

d) a functional portion of any one of (a) through (c), said portion having at least one function characteristic of a mammalian C-C chemokine receptor; and

e) a functional equivalent of any one of (a) through (c).

23. The recombinant construct of Claim 22, wherein the nucleic acid is operably linked to an expression control sequence.

24. An isolated, recombinant mammalian chemokine receptor 3 or portion thereof, said portion having at least one function characteristic of a mammalian chemokine receptor or an immunological property.

25. An isolated, recombinant receptor of Claim 24, wherein the mammal is a human.

26. An essentially pure mammalian chemokine receptor 3 or portion thereof, having at least one function characteristic of a mammalian chemokine receptor, for example, exotaxin binding.

27. A host cell containing an isolated, recombinant nucleic acid encoding a mammalian CKR-3 receptor protein or functional portion thereof.

28. A host cell of Claim 27, wherein the nucleic acid is operably linked to an expression control sequence, whereby the encoded receptor protein or functional portion thereof is expressed when the host cell is maintained under conditions suitable for expression.

29. A host cell of Claim 28, wherein the expressed protein binds one or more of RANTES, MCP-3, and eotaxin.

30. A fusion protein containing a mammalian chemokine receptor 3 protein or portion thereof, said portion having at least one functional characteristic of a mammalian chemokine receptor or an immunological property.

31. The fusion protein of Claim 30 wherein the mammalian chemokine receptor protein or portion thereof binds one or more of RANTES, MCP-3, and eotaxin.

32. The fusion protein of Claim 30, wherein the polypeptide binds RANTES.

33. The fusion protein of Claim 30, wherein the mammal is a human.

34. A nucleic acid construct, wherein said construct is an expression vector comprising a nucleic acid encoding a fusion protein of Claim 30, said nucleic acid comprising all or part of the coding sequence for a mammalian chemokine receptor 3 protein, wherein the

coding sequence is under the control of an expression control sequence.

35. A method for producing a mammalian chemokine receptor 3 protein or functional portion thereof comprising maintaining a host cell containing a recombinant nucleic acid encoding said receptor or functional portion thereof under conditions suitable for expression of the nucleic acid, whereby the encoded protein is expressed and said receptor or portion thereof is produced.

36. A method for producing a mammalian chemokine receptor 3 protein or functional portion thereof comprising the following steps:

a) providing a recombinant nucleic acid construct comprising a nucleic acid which encodes all or part of a coding sequence for a mammalian chemokine receptor 3 protein wherein the coding sequence is operably linked to at least one expression control sequence;

b) introducing the construct into a suitable host cells; and

c) maintaining the host cells in suitable medium under conditions whereby the nucleic acid is expressed.

37. The method of Claim 36, further comprising the step of isolating a mammalian chemokine receptor 3 protein or functional portion thereof from said cell or the medium of its growth.

38. An antibody or functional portion thereof which binds to a mammalian chemokine receptor 3 protein or portion of said receptor protein.

39. An antibody of Claim 38, wherein the mammalian chemokine receptor 3 protein is a human mammalian chemokine receptor 3 protein.

40. A method of detecting a ligand of a mammalian chemokine receptor 3 protein or portion thereof comprising the steps of combining a compound to be tested with an active, isolated mammalian chemokine receptor 3 protein under conditions suitable for binding of ligand thereto, and detecting or measuring the formation of a complex between said compound and the active, isolated protein.

41. A method of identifying a ligand of a mammalian chemokine receptor 3 protein or portion thereof comprising the steps of:

a) combining a compound to be tested with a host cell expressing an active, recombinant mammalian chemokine receptor 3 protein under conditions suitable for binding of ligand thereto; and

b) detecting or measuring the formation of a complex between said compound and the active, isolated protein.

42. The method of Claim 41, wherein the formation of a complex is monitored by detecting or measuring a signalling activity or cellular response by said active receptor in response to binding of a ligand thereto.

43. A method of identifying an inhibitor of a mammalian chemokine receptor 3 protein or portion thereof comprising the steps of:

a) combining a compound to be tested with a host cell expressing an active, recombinant mammalian

chemokine receptor 3 protein under conditions suitable for binding of ligand thereto in the presence of a ligand; and

b) detecting or measuring the formation of a complex between said ligand and the active, isolated protein.

44. An inhibitor of at least one function characteristic of a mammalian chemokine receptor 3 protein.

45. An inhibitor of Claim 44, which is an antibody or portion thereof.

46. Antisense nucleic acid comprising a nucleic acid having a sequence that hybridizes to a nucleic acid having a sequence selected from the group consisting of:

a) SEQ ID NO: 1;

b) SEQ ID NO: 3;

c) SEQ ID NO: 5;

b) an RNA counterpart of any one of a) through c).

47. A method of modulating at least one function of a mammalian chemokine receptor 3 protein, comprising the step of contacting said protein with an inhibitor or promoter of at least one function of said protein.

48. A method for treating an inflammatory disease or condition, comprising administering to a mammal a therapeutically effective amount of an inhibitor of a mammalian chemokine receptor 3 protein, whereby inflammation is reduced.

49. An antibody having binding specificity for a mammalian chemokine receptor 3 protein or portion thereof,

wherein the antibody blocks binding of a ligand to the receptor and inhibits function associated with binding of the ligand to the receptor.

50. The antibody of Claim 49 wherein the antibody can compete with monoclonal antibody 7B11 for binding to a human chemokine receptor 3 protein or portion thereof.

~~51. The antibody of Claim 49 wherein the antibody is 7B11.~~

~~52. An antigen binding fragment of the antibody of Claim 49.~~

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add E11

add G17

add C7

add F1